

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1991

The copy filmed here has been reproduced thanks to the generosity of:

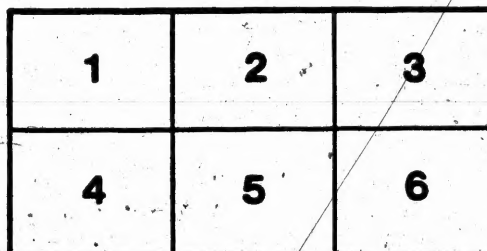
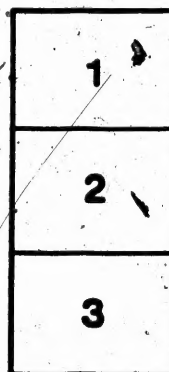
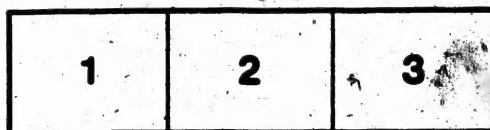
Société du Musée
du Séminaire de Québec

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol $\rightarrow$ (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Société du Musée
du Séminaire de Québec

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole $\rightarrow$ signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

200 Zoologie Insectes, no 1
Ande Brunet / ps

SYNOPSIS OF CANADIAN ARCTIADAE, INCLUDING
SOME ADDITIONAL SPECIES LIKELY TO OCCUR
IN CANADA.

BY WILLIAM SAUNDERS,
COR. MEMBER ENTOMOLOGICAL SOCIETY, PHILA., AND SOC. NAT. SCIENCES, BUFFALO.

Read before the Entomological Society of Canada, April 16th, 1863.

In pursuance of the plan first adopted by Prof. Hincks, of collecting and publishing in the "Journal" materials for a complete synopsis of our Canadian Entomological fauna, the following paper has been prepared; with the hope that it may be of some assistance to collectors, by enabling them more readily to determine their specimens, and also do something towards clearing up some hitherto doubtful points in connection with the specific characters of several species belonging to this beautiful and interesting family of Moths. The method of taking up, from time to time, certain families or sub-families of insects, and publishing descriptive lists of all the known Canadian species, including those likely to occur in Canada, is, we believe, a good one, and we feel sure that if continued it will greatly stimulate the growth of our favourite branch of science. We trust that those who have time and opportunity will assist us in the work, for the field is a wide one, and there is ample room for all to labour profitably.

In the preparation of this paper, free use has been made of the material collected by Dr. Morris, in the late Smithsonian "Synopsis of North American Lepidoptera," and also of that contained in Dr. Clemens' "Contributions to American Lepidopterology," published in the Proc. Acad. Nat. Sciences. We would also acknowledge our indebtedness to the many kind friends who have freely placed their specimens at our disposal. The collection thus gathered from various parts of the Province, has materially aided in making the list of Canadian species much more complete than it otherwise could have been, and also acquainted us with many interesting variations.

Fam. Arctiadae.—Herr-Schaef. Chelonides Boisd.

Stature usually robust. Maxillæ short, sometimes obsolete. Antennæ pectinate in the male, sometimes filiform. Palpi small pilose.



The family may be thus tabulated:

B. Fore wings streaked and spotted*Arctia*.

BBB. " " bluish grey.....*Euchætes*.

BBBBB. " " white, with many black-
ish ringlets } *Eopantheris.*

C. Fore wings semi-transparent *Phragmatobia*.

D. Hind wings red, with a black border... *Deiopia*.

DD. " " white or yellow, without spots, or sometimes with one or two small spots near the anal an } *Hypercomps.*

Arctia Schr.

Table of species :

B. Fore wings brown.

C. Hind wings with blue-black spots.
Abdomen spotted with black } *Americana.*

CC. " " black banded. Abdomen with disk black } *parthenos.*

BB. Fore wings black, or blackish, with few spots *placentia*.

AA. Fore wings striped.

D. Fore wings with many stripes.

E. Central stripe wide.

F. Hind wings red, anterior margin
bordered with black } *parthenice*.

FF. " " red, anterior margin
with black spots ... } *virgo*.

FFF. Hind wings flesh-colour, or slightly
tinged with red } *dione*.

FFFF. " " ochre-yellow or brown-
ish; external edges
with a double black
border } *nais*.

EE. Central stripe narrow } *virguncula*.

DD. Fore wings with few stripes.

G. Hind wings ochre-yellow, with
black spots } *phalerata*.

GG. " " reddish, with black
spots } *philyra*.

GGG. " " bright red, with a
broad black bor-
der } *decorata*.

GGGG. " " lightish brown,
with yellow spots } *celia*.

(NOTE.—All known Canadian species will be followed by a note of exclamation (!). The others are natives of the adjoining States, and will probably also be found to occur with us.)

A. Americana !—Harris. Figured in "Agassiz's Lake Superior,"
Fig. 7.

Palpi dark brown above, red beneath. Head brown. Antennæ yellowish-white above, with brown pectinations. Thorax brown, bordered in front with a white band which extends on each side to the extremity of the shoulder covers. Collar bordered above and below with red, with a front line of the same colour.

Primaries brown, deeper in colour towards base, with several white spots on costa, and crossed by broad irregular anastomosing lines of the same colour.

Secondaries bright ochre-yellow, with from four to six blue-black spots, three larger than the others.

Abdomen ochre-yellow, with a reddish tinge, and a dorsal row of large black spots. Legs dusky; thighs and anterior tibiae fringed with red.

Length of body 9-10 lines. Wings expand 25-28 lines.

The larva of this species does not complete its growth in the autumn, but attains only to about three-eighths of an inch in length, when it hibernates, seeking shelter in some crevice, usually under the loose bark of decaying trees. At this period it presents the following appearance:—Head black; body dark brown, with transverse rows of tubercles, from which spring dense tufts of intermingled black and white hairs. For two summers past we have reared the larva from eggs deposited by captured females, to the period of hibernation; but have failed to preserve them alive during the winter. Several years since we found, in the latter part of May, a full-grown specimen, but it entered the chrysalis state before an opportunity occurred for describing it.† They are somewhat omnivorous in their appetites, but show a preference for the common garden lettuce and lamb's quarter (*Chenopodium album*.)

The perfect insect usually appears in the latter part of June or early in July.

Hab.—London, not common; Toronto (Mr. Bethune); Kingston (Mr. Rogers); Trenton Falls, N.Y.; Lake Superior.

* *A. parthenos*!—Harris. Figured in "Agassiz Lake Superior," pl. 7. Var.: *A. Americana*.—Walker.

"Head brown, with a crimson fringe above, and between the black antennae. Thorax brown above, with an arcuated cream-coloured

† Since the above was written, specimens of the full grown larva have again been procured. They were found on the 18th of June, under some logs. The following description will serve to complete the history of this species:—Length two inches. Head black and bilobed. Body deep velvety-black, with transverse rows of tubercles, most of which are of a whitish colour, emitting tufts of hair. Hairs on second, third, and fourth segments dull red—on the latter slightly intermixed with white; those along the back are very long and silky, white mixed with black; while those on the sides are shorter, and of a dull red color. Under surface dull black, with a thickly set row of tubercles, in continuation of those above, on the third, sixth, eleventh, and twelfth segments, from which spring tufts of very short stiffish red hairs. Feet and prolegs black and shining.

* Those species prefixed with an asterisk (*) are not in the writer's collection; he would therefore feel greatly obliged for specimens from any person possessing duplicates of such.

band, which is continued on each side of the outer edge of the shoulder covers; upper edge of the collar crimson-red.

Primaries dark brown, with three small cream-coloured spots on the outer edge; four spots of the same colour in a line near the inner margin, and several more scattered on the disk.

Secondaries deep ochre-yellow; with the base, the basal edge of the inner margin, a triangular spot in the middle, adjoining the basal spot, and a broad indented band behind, black.

Abdomen dusky above, tawny at the tip, and beneath. Legs dusky; thighs and tibiæ fringed with crimson hairs."

Larva undescribed.

Hab.—Valley of the River Rouge (Mr. D'Urban); Lake Superior; Mass.

**A. placentia*.—Abbot. Figured in Sm. Ab. pl. 65.

"Fuscous; primaries with one or three pale testaceous spots; secondaries reddish, margin and some sub-marginal spots fuscous. Abdomen above reddish, with the dorsal spots and apex fuscous.

Var. a.—Fore wings with the outer fringe partly pale testaceous; and with several spots and dots of the same colour in the disk.

Var. b.—Fore wings with the outer fringe wholly blackish-brown, unspotted, except two very minute testaceous dots."

Larva undescribed.

Hab.—North America.

A. parthenice!—Kirby. Var.?—*A. virgo*.

Palpi black, tipped with whitish. Head buff in front, black at the sides. Antennæ dark brown. Thorax flesh-coloured, with two small anterior and three large posterior black stripes.

Primaries black, margined and striped with buff; veins and their branches narrowly striped; a wide central stripe extending to the hind margin, furcate just beyond the base; with the lower branch again furcate near the posterior angle. The central stripe is joined at an acute angle at the tip by a branch extending to the costa; another stripe from the costa, about the apical third of the wing, extends to the median stripe, below which it is furcate,—one part terminating beyond the middle, the other at the end of the lower stripe.

Secondaries bright red, with five or six irregular black spots edged with yellow, mostly towards the posterior margin. A large patch of black at the apex, which is prolonged along the anterior margin, bordering it to the base. Cilia yellowish.

Under surface paler than the upper, with the markings less distinct; margins yellow.

Abdomen red above, whitish at the tip, with a black dorsal macular band; black below, with a central row of four or five white spots. Legs black, fringed along the thighs and at base with brown; posterior edge of hind tibiae whitish.

Length of body $8\frac{1}{2}$ lines. Wings expand 25 lines.

Larva.—Length one and three quarters to two inches. Head black, with a light spot on each side. Body black, with a dorsal flesh-colored stripe. A transverse row of prominent tubercles on each segment, of a yellowish flesh-color, from which arise tufts of stiff hairs, which are black on the back and brown on the sides of the body. Feet and prolegs yellowish, tipped with black.

This larva, like that of *Americana*, hibernates when partly grown, and completes its growth the following spring. It feeds readily on lamb's quarter (*Chenopodium album*) or on grass.

Hab.—London. Not uncommon. Montreal (Mr. D'Urban.)

A. parthenice closely resembles the following species "*virgo*," and has usually been regarded as a mere variety of it; but since the larva described above, of which I have reared several specimens, does not agree with that of "*virgo*" as described by Harris, it is probable that they are distinct.

A. virgo!—Hubner.

Palpi black. Head buff in front; black at the sides. Antennae ferruginous. Thorax buff or flesh-color, with five black spots; two small ones in front and three larger on disk.

Primaries black, margined and striped with buff, flesh-color, or sometimes reddish. Veins and their branches striped; two wide longitudinal stripes joined near the base, and extending to the hind margin; the lower one furcate near the end; three transverse from costa; the two outermost extending to the hind margin, the inner one to the median stripe or just below it. A short transverse stripe unites the upper with the lower longitudinal ones beyond the middle of the wing.

Secondaries deep red, sometimes with a pinkish tinge, with from seven to nine irregular black spots edged slightly with yellowish, not collected towards the posterior margin, but scattered uniformly over the surface of the wing. Cilia yellowish-red.

Under surface paler in color, with the same markings.

Abdomen of the same color as secondaries, with a macular black band, or sometimes a row of black spots, along the back. Under surface black, or very dark brown, with sometimes two or three faint whitish spots along the centre. Posterior edge of hind tibia buff.

The perfect insect appears about the end of July.

Length of body 8-9 lines. Wings expand 21-27 lines.

"Larva brown, rather thickly covered with tufts of brown hair."

Var.—Primaries with all the stripes wider, occupying the greater portion of the surface of the wing.

Hab.—London. Not uncommon. Cobourg (Mr Bethune). St. Catharines (Mr. Beadle). Hamilton (Mr. Reynolds). Toronto (Prof. Croft; Dr. Morris). Kingston (Mr. Rogers). Montreal (Mr. D'Urban). Nova Scotia; New York; Illinois.

A. dione!—Hubn. *Argæ*.—Drury. Figured in Drury i. pl. 18; Sm. Ab. pl. 63; Naturalist's Library, vol. xxxvi. pl. 19.

Palpi black above, reddish below. Antennae whitish above, under surface brown, extremities nearly black. Head and thorax pale buff, with a pinkish tinge, especially towards the front; thorax with five black spots, two small ones in front and three larger on disk, one central and one on each tegulae.

Primaries black, widely margined and striped with pale buff or cream-color, sometimes with a pinkish tinge. Stripes all wide (especially the central one and its lower branch), occupying the largest portion of the surface of the wing.

Secondaries reddish flesh-color, with a fulvous marginal line behind, and eight or nine black spots, chiefly along the hind margin.

Under surface with similar markings, the black spots less distinct, and costal edge of primaries yellowish-red.

Abdomen reddish above, pale below, with five rows of black spots, one dorsal two lateral, and two on the underside; the latter, largest. Under surface of thorax, reddish, with two black spots below the eyes. Legs whitish, edged with brownish-black; anterior and middle thighs bordered in front with red.

Length of body 7 lines. Wings expand 18 lines.

The perfect insect may be taken from early in June to the end of July.

The description given of the larva in the "Smithsonian Synopsis" does not exactly agree with that given by Harris, which is as follows: "Length one inch and a half. Color dark greenish-grey; appearing almost black from the black spots with which they are thickly covered. There are three longitudinal stripes of flesh-white on the back, and a row of kidney-shaped spots of the same color on each side of the body. The tubercles are dark grey, each producing a thin cluster of spreading blackish hairs. It attains its full growth in the month of October."

Food plants.—"Plantain and other herbaceous plants. Abbot states that they sometimes make great devastation among young Indian corn in the Southern States."

Var. a.—Primaries reddish-white, with cuneiform black spots. Secondaries red, with black-yellow bordered spots.

Var. b.—Spots of the primaries much larger, and forming a stripe towards the hind border.

Var. c.—Spots of the primaries still larger, and more inclined to form stripes. Spots of the secondaries without yellow borders."

Var. d.—Secondaries whitish, spots small and without yellow borders.

Hab.—Niagara (Dr. Morris). Toronto (Prof. Croft). Mass.; New York; Illinois; Georgia.

A. nais!—Drury. Figured in Drury, pl. 7.

Palpi black. Antennæ black above, lighter beneath. Head and thorax dull buff, with a brownish tint; thorax with five black spots, two small ones in front and three larger on disk, one central and one on each shoulder cover.

Primaries black, with pale ochre stripes; margins, veins, and their branches narrowly striped; central longitudinal stripe wide, furcate not far from the base, sending a wide branch to the posterior angle, where it is also furcate near its termination; the central stripe is again furcate about the apical third of the wing, emitting a wide branch, which joins the lower one; a short wide stripe crosses the apex, extending from the extremity of the central one to just under the costal edge.

Secondaries ochre-yellow, with a brownish tinge; with one or two small black spots, and a broad irregular dusky black border along the external edges, widest at the apex and narrower towards the inner angle; a line of ochre-yellow extends half through the black border, about the middle of the wing, and the border has also one or two small, dull, ochre spots in it.

Under surface paler, with similar markings; veins on secondaries narrowly striped with pale buff while passing through the black border.

Abdomen deep ochre, whitish towards the tip, with a black dorsal band, and lateral rows of spots of the same hue; under surface, thorax dull brownish, abdomen black, annulated with whitish. Legs brownish black, femora edged externally with buff.

Length of body 7 lines. Wings expand 18 lines.

Larva undescribed.

Var. a.—*Male*. Fore stripe of the primaries not joining the costa.

Var. b.—*Male*. Inner border of the secondaries reddish.

Var. c.—*Male*. Primaries with no pale oblique band towards the tip.

Var. d.—*Female*. Like Var. c. Secondaries red, with broad blackish borders. Abdomen wholly brown, except on each side above towards the base.

Var. e.—*Female*. Primaries with testaceous veins; fore stripe and part of the middle stripe almost obsolete."

Hab.—Hamilton (Mr. Reynolds). Massachusetts.

A. virginica!—Kirby. Figured in Faun. Bor Amer. iv. pl. 4.

Palpi small, brownish black. Antennæ black, with a brownish tinge. Head flesh-colored above, black at sides. Thorax pinkish-buff, with five black spots, two small ones in front, and three larger on disk.

Primaries black, margined, and striped with pale flesh-color. Costal margin, veins, and their branches, narrowly striped. *The central longitudinal stripe along the median vein linear throughout.* A wide stripe, having its origin at the base immediately under the median vein, and deflected from thence to the hind margin, where it is furcate. A zig-zag subterminal band, beginning on the costa near the apex and terminating near the posterior angle, where it joins the end of the wide longitudinal stripe. Two wide stripes arise from the costal edge; the first, about the middle of the wing, extends to

the median vein, or just below it; the second at the apical third, uniting with the wide longitudinal stripe below.

Secondaries pale reddish-buff, with five or six black spots, *one within, the others along the posterior margin, where they form an irregular macular band.* Ciliae whitish.

Under surface paler, with markings less distinct, excepting towards the apex.

Abdomen reddish above with the tip, and a dorsal macular band black. Under surface dark brown, imperfectly annulated with whitish hairs.

Length of body 5-8 lines. Wings expand 17 to 20 lines.

Larva undescribed.*

Var. a.—Primaries with the stripes reddish; secondaries pinkish-red. Abdomen with two additional rows of spots at the sides; under surface black, centered with yellowish-brown.

Var. b.—Primaries with the stripes nearly white; secondaries pinkish-orange. Abdomen with two additional rows of spots; black, with some faint lightish central spots.

Var. c.—Primaries with the stripes pale; secondaries bright red. Abdomen entirely black below.

Var. d.—Primaries with all the stripes narrower and reddish; secondaries bright red. Abdomen with macular band above very wide; entirely black below.

Var. e.—Primaries with the stripes reddish-ochre, costa edged only to about the basal third of wing; secondaries vermillion-red. Abdomen deep black below.

Hab.—London: common. Toronto (Mr. Bethune; Prof. Croft; Dr. Morris); St Catharines (Mr. Beadle). Hamilton (Mr. Reynolds). New York.

* A single specimen of the larva of this species was taken during the present season, on the 2nd of June, under a log. Length $1\frac{1}{2}$ to $1\frac{3}{4}$ inches. Head *small*, black, reddish at sides. Body dull black, *rather glossy*, with a slightly reddish tinge. On each segment is a transverse row of black tubercles, emitting tufts of stiff bristly hairs of the same hue. Hairs on the two hinder segments longer than those on the other. A faint whitish dorsal line from the head to the third segment, and another faint mark of the same color on the terminal segment. Under surface dull red, feet and prolegs of the same color.

A phalerata!—Harris. "Figured in Harris' Insects, new Edition, Fig 166.

Male. Palpi black. Antennæ black above with light-brown pectinations. Head ochre-yellow, narrowly bordered with black at the sides. Thorax ochre-yellow with THREE black stripes, one central, and one on each tegulæ.

Primaries black, with *very wide stripes of ochre yellow*, one along the costa to near the tip, another along the hind margin, and a third very wide central stripe, furcate about the middle, both branches extending to the hind margin; the end of the lower branch is joined by a transverse stripe, which extends obliquely to the costa; and from the termination of the upper branch arises another extending across the tip to near the costa.

Secondaries bright ochre-yellow, with three black spots along the posterior margin, and a patch of black at the anterior angle, which is prolonged along the anterior margin to near the base of the wing. Ciliæ buff.

Under surface with the same markings and nearly as distinct.

Abdomen ochre-yellow, with a wide dorsal black band narrower towards the thorax, below black, with a central yellow band, wider towards thorax. Legs black, fringed with brownish-yellow hairs at their base; anterior thighs spotted with reddish-yellow.

Length of body 7 lines. Wings expand 16 lines.

Larva undescribed.

Var. *Secondaries* with a reddish tinge towards the inner margin.

Under surface of abdomen black, with one small yellow dot near base.

Hab.—Cobourg. (Mr. Bethune.)

A philyra!—Drury.

Male. Palpi black. Antennæ blackish brown. Head and thorax reddish flesh color, the latter with two small black spots in front, three larger on disk, and a short one on each side at base of primaries of the same hue.

Primaries black, with pale flesh-colored stripes; one along the costa deflected at the apical third of the wing to the posterior angle; a broader stripe beneath the median vein, furcate about the middle, and extended to the hind margin, where it is turned at an acute angle towards the costa. The lower branch is also extended to the hind margin, where it is again slightly furcate, and joins the deflected

portion of the costal stripe near the posterior angle. Inner margin bordered with the same color.

Secondaries reddish flesh color, deeper in color towards base, with three black spots along the hind margin, and a patch of the same color extending from the anterior angle along the front margin to near the base.

Under surface with the same markings, but paler.

Abdomen reddish, with a black dorsal band above; below brownish-black. Anterior thighs edged with buff.

Length of body $5\frac{1}{2}$ lines. Wings expand thirteen lines.

Larva undescribed.

Hab.—St. Thomas, seventeen miles from London. Rare.

A decorata!—Saunders. Described in Proc. Ent. Soc. Philada.—Vol. 2. No. 1.

Female. Tongue bright yellow. Palpi black. Antennæ black, slightly pectinate. Head black, with a tuft of yellow hairs between the antennæ. Thorax ochre yellow, with two small linear spots in front, and three larger ones on disk, one central, and one on each shoulder cover, and a small spot of the same hue on each side at base of primaries.

Primaries deep velvety black, with rich ochre-yellow stripes, one on costa terminating at the apical third of the wing; one broad central stripe along the median vein to within a third of the hind margin, slightly enlarged at the tip, where it is joined at an acute angle by a smaller stripe which terminates just under the extremity of the costal band. This central stripe is notched or obscurely furcate about the middle; the lower part of the notch extends a very short distance towards the hind margin, terminating in a point, and in a line with this further towards the posterior angle, are one or two very minute yellow dots. Inner margin with a border of the same color, gradually widening towards the base.

Secondaries bright red, widely bordered with dull black, excepting on the inner margin; a small red dot set in the black border not far from the apex. Ciliæ vary in color from ochre-yellow to dark brown.

Under surface paler with the same markings.

Abdomen deep black, with a patch of ochre-yellow or orange on each side at base, wide where it joins the thorax and narrow at its termination on the third segment. A yellowish dot on each side of

fourth and fifth segments, and one on centre of back near tip. Under surface entirely black.

Length of body 6 lines. Wings expand 16 lines.

Larva undescribed.

Hab.—St. Catherines. Rare. (Mr. Beadle.)

A. celia!—Saunders. Described in Proc. Ent. Soc. Philadelphia, Vol. 2. No. 1.

Male. Palpi black above, yellowish beneath. Head yellow, with black lateral stripes. Antennæ brown, pectinated. Thorax yellowish-white, deeper in color towards the head; with two short black stripes in front, and three longer and larger on disk, one central and one on each tegula.

Primaries brownish-black, with white stripes, a wide stripe having its origin at the base of the median vein, and from thence deflected towards the posterior angle, where it grows narrowly linear, from this two branches proceed: the first from about the centre of the wing extends in a straight line to the costa, the second obliquely towards the apex, terminating under the costal edge; a subterminal zigzag line forming a distinct W, crossed at the top by the oblique band.—Costa edged with yellowish to about the apical third of the wing.

Secondaries lightish-brown, with two irregular yellow spots about the middle of the wing, and a stripe of the same color extending from the base along the submedian vein, to within a third of the hind margin. Inner margin yellow. Ciliæ brown, intermixed with white.

Abdomen yellow, with a dorsal macular band black, and a row of black spots on each side; under surface whitish, with imperfect black bands. Legs black, spotted with yellow, and with tufts of yellow hairs at their base.

Length of body 6 lines. Wings expand 14 lines.

Larva undescribed.

Var. *a*. *Male*. Secondaries dark-brown, with the yellow spots somewhat smaller, inner margin brown. Legs edged with yellowish-white.

Var. *b*. *Male*. Antennæ light-brown. Head and thorax with a pinkish tinge. Secondaries with the central spots smaller than the type, and of a reddish color. Abdomen yellowish-red, with the central portion of under surface greyish-white.

Hab.—Toronto. The type from Mr. Bethune, Vars. a and b from Professor Croft.

Spilosoma.—Stephens.

Palpi more or less exceeding the clypeus, hairy beneath, first and second joints usually short, sometimes the joints nearly equal.—Wings white or fulvous with black dots, sometimes wanting. Abdomen with five or six rows of black dots, sometimes indistinct; one above, one below, and two on each side. Hind tibiae with two pairs of spurs near the tip, sometimes minute.

Table of species :

- A. Wings white.
 - B. Wings with few dots *Virginica*.
 - BB. Wings with many dots *acrea*.
 - BBB. Wings without dots *collaris*.
- AA. Wings fulvous..... *Isabella*.

S. Virginica!—Fabr.

Palpi black above, yellowish below. Antennæ white above, with black pectinations. Head and thorax white and very woolly.

Primaries white, with a black discal dot.

Secondaries white, with three black dots, one on disk, and the others towards the hind margin.

Under surface with the same markings; the dots on secondaries, especially the discal one, more distinct.

Abdomen deep yellow above, whitish beneath, with five rows of black spots, one dorsal, and two on each side. Anterior coxæ, and femora ochre-yellow, the latter with a black spot; tarsi annulated with black.

Length of body 6-7 lines. Wings expand 17-19 lines.

"The Larva varies much in color, often of a pale yellow or straw color, with a black line along each side of the body, and a transverse line of the same color between each of the segments, and it is covered with long pale yellow hairs. Others are of a brownish-yellow or foxy red. Head and ends of the feet ochre-yellow. Body below blackish." Will feed on almost any herbaceous plant.

Var. a. Wings wholly white.

Var. b. Wings wholly white above, below primaries with a small black dot above the disc; secondaries with three black dots.

Var. c. Primaries with one black dot, secondaries with two.

Var. d. Same as c, with an additional black spot on underside of primaries near base.

Var. e. Primaries with two black dots, secondaries with same number.

Var. f. Primaries with two black dots, secondaries with four black dots, primaries below with a dot at base.

Var. g. Primaries with three black dots, secondaries the same.

Var. h. Same as g, with the black basal dot on primaries below.

Var. i. Primaries wholly white, secondaries with three black dots.

Hab.—London, very common; Cobourg (Mr. Bethune); St. Catharines (Mr. Beadle); Hamilton (Mr. Reynolds); Toronto (Prof. Croft, Dr. Morris); Kingston (Mr. Rogers); Montreal (Mr. D'Urban.)

S. acrea!—Drury.

Female. Palpi black above, yellowish beneath. Antennæ black. Head and thorax white and woolly.

Primaries white, with many black dots, those along the costa largest.

Secondaries white, with from three to six black spots chiefly along the hind margin.

Wings below white, with fewer spots, veins tinged with yellowish.

Abdomen deep ochre-yellow above; apex and under surface white, with six rows of black spots, the dorsal row largest. Thighs and fore tibiae ochre-yellow. Tarsi black, annulated with white.

In the *Male* the primaries are white, with a yellowish tinge; secondaries deep ochre-yellow; under surface of body and wings ochre-yellow.

Length of body 6-8 lines. Wings expand 18-23 lines.

"Larva white when young, nearly black when full grown; intermediate stage reddish brown; two yellow lines along the sides, and a transverse series of orange spots on each segment. From the back of each segment arises a tuft of blackish hairs." Feeds on almost every herbaceous plant.

Hab.—London, common; Cobourg (Mr. Bethune); Toronto (Dr. Morris, Prof. Croft); St. Catharines (Mr. Beadle); Hamilton (Mr. Reynolds); Kingston (Mr. Rogers); Montreal (Mr. D'Urban.)

S. collaris!—Fitch.

Palpi brownish-black above, yellow below. Antennæ whitish above, with brown pectinations. Head yellow. Thorax yellow in front, nearly white behind.

Primaries glossy white, semi-transparent; with the costal edge, sub-costal vein, and space between, yellow; paler towards apex.

Secondaries wholly white, semi-transparent.

Under surface same as upper, but paler, with the discal cell on primaries partly dusky.

Abdomen rather slender, whitish annulated with yellow, with a dorsal and double lateral rows of black dots. Anterior femora pale yellow; feet rather long and slender; brownish. Hind tibiae with the two pairs of spurs long.

Length of body 5 lines. Wings expand 14 lines.

Larva undescribed.

Hab.—London, rare; Mississippi.

S. Isabella!—Abb. and Sm.

Palpi brown, short, and hairy. Antennae filiform whitish above, brownish-yellow below. Thorax yellowish-brown, anterior portion darker.

Primaries fulvous or brownish-ochreous, sometimes tinged with red; with a discal spot, and an indistinct sub-terminal line of spots along the outer margin, black.

Secondaries yellowish-ochreous with a roseate tinge, semi-transparent; with two black discal spots, and several more of the same hue along the hinder margin.

Under surface of primaries rosy, margined with ochre-yellow, and with a short black stripe on sub-median vein near base; secondaries similar in color to the upper surface, with discal spots on both larger and deeper in color.

Abdomen ochre-yellow, with a reddish tinge, and three rows of black spots. Anterior thighs crimson in front; legs black.

Length of body 7-8 lines. Wings expand 14-16 lines.

Larva. Head black and shining; body brownish-black, with irregular transverse rows of tubercles, from which arise tufts of stiff hairs, which are dull yellowish-red along the middle of the body and black towards each end. Under side lighter in color than upper. This larva, which is one of our commonest species, completes its growth in the autumn, and hibernates through the winter. In spring they usually feed for a few days before going into chrysalis; they will eat almost any herbaceous plant. Length, about one and a half inches.

Var. a. Primaries deeper in color both above and below, crossed above by three wavy bands of dusky black; underside with an additional black line on disk.

Var. b. Primaries like the type; secondaries whitish-yellow.

Var. c. Markings on primaries very indistinct; secondaries immaculate.

The perfect moth appears from late in May to the middle of June.

Hab.—London, very common; Cobourg (Mr. Bethune); Toronto (Prof. Croft, Dr. Morris); St. Catherines (Mr. Beadle); Hamilton (Mr. Reynolds); Kingston (Mr. Rogers); Montreal (Mr. D'Urban.)

Hyphantria.—Harris.

Palpi hairy beneath, *scarcely extended beyond the clypeus*. Second joint very short, terminal joint nearly rudimental. Wings white, sometimes spotted with black. Abdomen with rows of black dots. Hind tibiae with *one pair* of small apical spurs.

Table of species:

- A. Wings white, without spots *testor*.
- AA. Wings white spotted
- B. Primaries with many black spots..... *cuneas*.
- BB. Primaries with one black dot *punctata*.

**H. testor*.—Harris.

"Palpi blackish. Antennae blackish-brown.

"Wings pure white, without spots.

"Fore femurs tawny yellow, without spots.

"Larva greenish, dotted with black; a broad blackish stripe along the top of the back, and a bright yellow stripe on each side. The warts from which the thin bundles of hairs proceed, are black on the back, and rust yellow or orange on the sides. Head and feet black. They spin large webs, and live in communities."

Hab.—Mass.; Penn.; Georgia.

**H. cuneas*.—Drury. Figured in Drury I, pl. 18; Sm. Abb., pl. 70.

"Antennae blackish brown. Thorax ash color, usually unspotted, sometimes with a few black spots.

"Primaries white, with highly variable markings, usually with numerous black spots; external margin with five spots; those nearest the tip triangular; sometimes the spots fewer.

"Secondaries without spots, sometimes with a dark spot near the external edge, and faintly marked near the external angle.

"Abdomen white, with three rows of minute black spots, frequently inconspicuous. The fore coxae and femora luteous; tarsi blackish.

"Length of body 5-6 lines. Wings expand 13-18 lines."

Larva undescribed.

Hab.—Mass.; Penn.; Georgia.

**H?* (*Spilosoma*) *punctata*.—Fitch. Fitch's Third Report, p. 265.

"Primaries white, with a black central dot, and in the males a row of small blackish spots, extending from the middle of the inner margin to the tip.

"Secondaries white.

"Thighs and hips yellow in front; a continuous black stripe on fore side of anterior feet and shanks."

Larva undescribed.

Hab.—New York.

Euchates.—Harris.

Wings bluish-gray, without spots. Abdomen smooth, spotted. Hind tibiae with two pairs of spurs.

**E. Egle*.—Drury. Figured in Drury II., pl. 20. Larva figured in Harris' Insects, new edition, fig. 172.

"Head gray; occiput with a narrow luteous line. Thorax gray.

"Wings rather long, thin, and delicate, of a bluish-gray color, paler on the front edge, and without spots.

"Abdomen above dark yellow, with a dorsal and lateral row of black spots; beneath whitish or gray. Fore coxae woolly, and touched at the sides with luteous."

Wings expand 17-20 lines.

"Larva black, with a whitish line on each side, and thickly covered with short tufts of hairs, proceeding from little warts. Along the top of the back is a row of short black tufts, and on each side, from the fifth to the tenth ring inclusive, are alternate tufts of orange and yellow hairs, curving upwards so as nearly to conceal the black tufts between them; below these, along the sides of the body, is a row of horizontal black tufts. On the first and second rings are four long pencil-like black tufts, extending over the head; on each side of the

third ring is a similar black pencil, and two which are white placed in the same manner on the sides of the fourth and tenth segments. These larvæ are gregarious; they feed on milkweed (*Asclepias Syriaca*). They are full grown about the month of September, when they leave off feeding, disperse, conceal themselves, and make their cocoons, which mostly consists of hairs. The chrysalis is short, almost egg-shaped, blunt, and rounded off at the hind end, and is covered with small punctures.

"The perfect moth appears between the middle of June and the beginning of July."

Hab.—Mass.; New York.

Halesidota.—Hubner. *Lophocampa*.—Harris.

Palpi stout, porrect, not long; third joint conical, very minute. Primaries long and narrow. Body stout; abdomen smooth, extending beyond the secondaries. Legs stout, smooth; hind tibiæ with four spurs, moderately long.

Table of species:

- A. Primaries semi-transparent.....*tessellaris*.
- AA. " densely clothed with scales.....
- B. Primaries with transverse rows of silvery white spots.....*carya*.
- BB. Primaries with yellow spots.....*maculata*.
- BBB. " with whitish tawny bordered spots,*fulvo flava*.

H. tessellaris!—Sm. Abb. Figured in Sm. Abb. pl. 75.

Palpi deep yellow, tipped with black. Antennæ brownish-yellow. Head and thorax whitish-yellow; inner edges of shoulder-covers fringed with bluish-green, with the space between the fringes bright yellow.

Primaries semi-transparent, whitish, tinged with ochre-yellow, with five irregular transverse dusky bands, edged on each side with delicate blackish lines.

Secondaries paler than the primaries and more transparent.

Abdomen ochre-yellow above, paler below. Feet ochre-yellow, spotted with black.

Length of body 5-6 lines. Wings expand 19-20 lines.

Larva: " Head brownish-yellow. Body yellowish-white, with dusky tubercles, from which spring tufts of light yellow or straw-colored hairs, those along the crest being a very little darker: on

the second and third segments are two orange colored pencils, which are stretched over the head when at rest, and before these are several long tufts of white hairs. On each side of the third segment is a white pencil, and there are two pencils of the same color on the eleventh segment directed backwards. They are gregarious, and feed upon the buttonwood or sycamore tree, upon which they may be found in July and August. In August or September they leave the trees and secrete themselves under logs, stones, &c., and construct their cocoons, which are oval, thin, and hairy."

Hab:—London, not common; Port Stanley (Mr. Edwards); Montreal (Mr. D'Urban.)

H. caryæ!—Harris. Figured in Harris' Insects, Mass., new edition, fig. 175. *H. annulifascia*.—Walker. C. B. M., 374.

Palpi dusky yellow, with a minute black dot at the tips. Antennae deep brownish-yellow. Head and thorax pale ochre-yellow. Shoulder covers edged internally with pale brown.

Primaries pale ochre-yellow, thickly covered with minute brownish dots; two oblique brownish streaks passing backwards from the costa, the inner one most distinct, and three or four irregular transverse rows of silvery white spots, edged with brown; veins brown.

Secondaries paler, semitransparent, and without spots.

Under surface paler than upper; primaries with the same markings, more distinct towards the apex.

Abdomen bright ochre-yellow above; under surface paler, with three longitudinal rows of light brown spots; legs brownish-yellow.

Length of body 6-7 lines. Wings expand 19-21 lines.

Larvæ: "Length one and a-half inches. White, sprinkled with black dots, and covered with short spreading tufts of white hairs, with a row of eight black tufts on the back, and two long, slender black pencils on the fourth and on the tenth segments. The tufts along the top of the back converge on each side so as to form a kind of ridge or crest; and the warts from which these tufts proceed are oblong, oval, and transverse, while the other warts on the body are round. The hairs on the fore part of the body are much longer than the rest and hang over the head; the others are short as if sheared off, and spreading. The head, feet, and under surface are black, and the spaces between the segments have transverse black lines. They feed on hickory, ash, and elm trees; are full grown in September,

when they secrete themselves and make their cocoons, which resemble those of the last species."

The perfect insect appears late in May or early in June.

Var. Primaries much darker in color, giving a greater prominence to the silvery white spots; under surface also darker, with markings more distinct.

Hab.—London, common; Toronto (Mr. Bethune); Prescott (Mr. B. Billings); Montreal (Mr. D'Urban).

H. maculata!—Harris. Ina. Mass., p. 259.

Palpi yellow. Antennæ brownish-yellow. Head and thorax deep ochre-yellow.

Primaries yellowish-brown, paler towards the hind margin; with three or four very irregular transverse bands of pale yellow spots, which are largest along the costa, at base, and along the inner margin.

Secondaries whitish, semitransparent, and without spots.

Under surface paler with the markings much less distinct.

Abdomen tawny-yellow above, somewhat paler below with a few brownish dots along the sides. Legs yellow; tarsi tipped with black.

Length of body 7 lines. Wings expand 16 lines.

The larva, as described by Harris from a shrivelled specimen, "is covered with whitish tufts forming a crest on the back, in which are placed eight black tufts; a black pencil on each side of fourth and tenth segments, and a quantity of long white hairs overhanging the head, and the hinder extremity. Head black."

Hab.—London, not common; Coburg (Mr. Bethune); Kingston (Mr. Rogers).

**H. fulvo flava*.—Walker. C. B. M., 733.

"Proboscis tawny. Thorax with two tawny stripes which converge hindwards, and with two tawny spots in front between the stripes.

"Primaries yellow with a tawny spot at the base, with two oblique tawny bands, with darker borders; these bands are partly connected; and the inner one is especially irregular and ramose, being forked in front, and dilated in the disk, towards the base, and emitting a branch to each border.

"Secondaries whitish with a slight testaceous tinge.

"Femora and tibiae hairy; fore femora and fore tibiae tawny above.
 "Length of body 6-7 lines. Wings expand 16-18 lines."

Var. "Primaries tawny with yellow spots at the base, at the tips,
 along the costa, and forming an oblique band beyond the
 middle."

Hab.—North America.

It is probable that this species is identical with "*maculata*."

Ep Pantheria. Walker.

Proboscis moderately long. Palpi very short, not extending beyond the clypeus. Antennae of *Male* serrated, of *Female* simple. Wings moderately broad. Primaries much longer than secondaries. Body stout. Abdomen extending beyond the hind wings. Legs stout; hind tibiae with two minute apical spurs.

E. scribonia !—Stoll. *Macularia*, Fab. *cram. Oculatissima*, Sm. and Abb. *Chryseis*, Godart. Figured in Sm. Abb., pl. 69, Nat. Lib. vol. 37.

Palpi dark brown above, whitish below. Antennae black above, lighter below. Head white, with a wide blue-black band across the front. Thorax white with ten or twelve black rings centred with bluish-white.

Primaries white with numerous dark brown rings and spots, arranged in five or six illly defined transverse bands.

Secondaries white with few spots, chiefly along the hind margin; inner margin very hairy with a blackish stripe.

Under surface somewhat paler than upper with the markings distinct.

Abdomen bluish-black with a metallic gloss; a dorsal row of orange spots and a macular band of the same color along each side, also somewhat banded between the segments with orange; under surface whitish, with three rows of black spots. Legs white spotted with black; anterior thighs blue-black in front.

Length of body 8-10 lines. Wings expand 24-30 lines.

Larva: Length two and a half inches. Head bilobed, black and shining; reddish at the sides. Body black; each segment with a transverse row of elevated tubercles from which spring tufts of rigid, black, shining hairs. The spaces between each segment from fourth to tenth inclusive are banded with red, bands wider and more

conspicuous from sixth to ninth. Color of under side varies from reddish to yellowish-brown; feet reddish; legs brown, thickly clothed with short hairs.

These larva attain their full growth in the autumn, when they may be found feeding on the wild sunflower, and hybernate through the winter under logs, the loose bark of decaying trees, &c. When aroused from their torpor by the warmth of spring, they feed a little on almost any green thing they meet with, before going into chrysalis. They feed readily on grass. They enter the chrysalis state about the last of April or beginning of May, and the perfect insect is evolved early in June.

Var. Thorax with bluish-black spots instead of rings; abdomen tipped with white; dorsal row of orange spots wanting.

Hab.—London, not common; St. Catherine's (Mr. Beadle); Port Stanley (Mr. Edwards).

Phragmatobia. Stephens.

Palpi short, scarcely distinct, very pilose. Antennæ short; of the *Male* serrate, of the *Female* simple. Head and thorax with long hairs. Wings semitransparent. Body stout. Abdomen maculate. Anterior tibiae unarmed; posterior tibiae with four spurs.

Table of species:

- | | | |
|-----|---|---------------------|
| A. | Primaries red, with brown markings..... | <i>assimilans</i> . |
| AA. | “ brown..... | <i>rubricosa</i> . |

**P. assimilians*.—Walker. C. B. M., 630.

“*Male*. Red. Antennæ testaceous. Thorax with brown hairs.

“Wings red; veins darker. Primaries slightly brown along the costa, and elsewhere indistinctly sprinkled with pale brown, with two blackish dots.

“Secondaries brighter red, with three black dots, two on the disk, and one near the hind border towards the inner angle.

Length of body 6 lines. Wings expand 16 lines.”

Var. “Primaries almost wholly brown. Secondaries with a broad blackish submarginal stripe.”

Larva undescribed.

Hab.—United States.

P. rubricosa — Harris. *Arctia rubricosa*, Harris' Insects; new edition.

Antennæ whitish. Palpi, head and thorax dark reddish-brown.

Primaries dull reddish-brown, with the discal cell terminated by a blackish line, enlarged into a dot at each end.

Secondaries paler in color than primaries, with a rosy tint becoming blacker behind. Inner margin and fringe of hind margin red.

Under surface of both primaries and secondaries reddish excepting along the hind margins. The lines which, on the upper surface, unite the dots on discal nervure, wanting.

Abdomen red, with dorsal and lateral rows of black spots; under surface dull reddish-brown. Fore femora bright red.

Length of body 4-5 lines. Wings expand 11-12 lines.

The larva has been reared by D. W. Beadle, Esq., of St. Catharines, who has kindly furnished me with the following notes: "They were found in the fall, feeding on a young ash tree, near St. Catharines; they spun a web over nearly the whole of the tree before they had done feeding, spinning as they fed, so as to keep themselves covered. The web is not so dense as that of *Clisiocampa Americana*. — The larvæ were of a dingy smoke color, deepening into a dark brown. Hairs not stout and bristle like, as in '*S. Isabella*,' but finer and softer, like '*virginica*.' The perfect insect did not appear until the following spring."

Var. Secondaries reddish pink; hind margin widely bordered with dull blackish.

This species closely resembles the European "*fuliginosa*," and has usually been regarded as identical with it; Harris, however, held a different view, and named it *rubricosa*. The habits of the larvæ appear to be different, and there are slight differences also in the markings on the wings. In "*fuliginosa*," the black dots on wings are more prominent, and the red on secondaries much deeper and brighter in color. In "*rubricosa*" the secondaries are margined behind throughout with black, whereas in *fuliginosa* the red color of the cilia encroaches upon the wing, especially towards the apex; and the black is somewhat broken towards the anal angle into irregular spots; in the latter also the primaries are somewhat less transparent, and the dorsal spots on abdomen coalesce forming a macular band.

Hab. — St. Catharines, (Mr. Beadle). Hamilton, (Mr. Reynolds), Matan. Gulf of the St. Lawrence, (Mr. Bell). St. Martin's Falls, Hudson's Bay Territory, (Dr. Barnston.)

Deiopeia Curt.

Body slender. Head small. Eyes prominent. Antennae simple in each sex; rather short and slightly pilose beneath in the males.—Palpi curved, ascending nearly to the middle of the face, basal joint tumid, middle joint long, terminal joint short, ovate. Tongue about equal to the thorax beneath. Legs moderate, tibiae very short, hind tibiae with four spurs at the apex. Flight diurnal.

D. bella !—Linn.

Palpi yellowish-white, tipped with black. Antennae black. Head whitish, with four black spots. Thorax white, with about twelve black spots; and a patch of ochre-yellow on each side, at base of primaries.

Primaries orange-yellow, with from five to seven irregular transverse whitish bands, spotted in the middle with black; the last one furcate from about the middle towards the costa; hind margin with a row of black spots.

Secondaries bright red, sometimes paler; with the hind margin bordered with a black-white edged indented band, which is furcate at the apex of the wing.

Under surface very bright red; primaries with the costal margin yellow; three elongated black spots extending from the costa inwards; a subterminal imperfect black band and a row of spots on the hind margin. Secondaries with the same markings as above, with two white bordered black spots on the costal margin.

Abdomen greyish-white, with two rows of black spots on the under side. Legs whitish, spotted with black.

Length of body 6 lines. Wings expand 13 lines.

Larva undescribed.

Var. Primaries with the white stripes from the base to beyond the middle intersecting the orange bands, dividing them into two or three portions.

Hab.—London. Rare. St. Catharines, (Mr. Beadle). Keswick, Lake Simcoe, both type and var., (Mr. Bethune.) Port Stanley, (Mr. Edwards.)

Hypercomps Hubn. *Callimorpha* Latr.

Palpi somewhat exceeding the clypeus, pilose towards the base, the middle and basal joints nearly equal, terminal joint short and

ovate. Tongue about the length of the thorax beneath. Eyes large and prominent. Antennae simple in both sexes, ciliated with two strong setae at each joint. Thorax smooth. Body slender. Secondaries broader than primaries. Legs rather slender, anterior tibiae much shorter than the femora; hind tibiae with four moderate spurs. Flight diurnal.

Table of species:

A. Secondaries white.

B. Primaries white with a transverse dark brown band beyond the middle. } *contigua*.

BB. " " with the costal edge yellow orange... } *fulvicosta*.

BBB. " " with a brown band from the inner margin to the tip } *militaris*.

C. Primaries brown with white spots... *Lecontei*.

CC. " " with an oblique subapical white band } *confinis*.

AA. Secondaries yellow.

D. Primaries dark brown, with whitish spots; secondaries pale yellow } *elymene*.

DD. " pale buff, bordered with brownish-black; secondaries, deep yellow } *interrupto-marginata*.

H. contigua!—Walker. C. B. M., 650.

Palpi orange-yellow, tipped with black. Antennae brownish-black, somewhat lighter below. Head and front edge of thorax deep yellow. Thorax brownish-black, with the sides and shoulder covers white.

Primaries white with blackish-brown stripes; one along the costa to near the tip; one on the inner margin, joined at its extremity with an oblique transverse band, extending to the costa; from the centre of this latter a stripe extends to the hind margin, somewhat enlarged at its termination, where it is centered with white. Hind margin partially edged with brownish-black.

Secondaries white, immaculate.

Abdomen white, with a blackish dorsal stripe extending nearly to the tip. Fore femora yellow; legs whitish, fore and middle pairs edged anteriorly with black.

Length of body 6-7 lines. Wings expand 17-18 lines.

Larva undescribed.

Var. Secondaries with two or three brownish spots near the anal angle.

Hab.—London, not common; Grafton, Co. Northumberland (Mr. Bethune); United States.

**H. fulvicosta*.—Clemens. Clemens Contributions to Amer. Lepidopterology. Proc. Acad. Nat. Sci.

"Palpi yellow-orange, tips blackish. Head and prothorax yellow-orange. Thorax white.

Primaries white with the costal edge, especially beneath, yellow-orange, sometimes brownish.

Secondaries white.

Abdomen white, tipped with yellowish. Breast and legs yellow-orange, the middle and fore tibiae and tarsi blackish."

Larva undescribed.

Hab.—Illinois.

**H. militaris*.—Harris. Figured in Harris' Insects, new edition, fig. 165.

"Head and collar buff-yellow. Thorax and abdomen with a dorsal brown stripe.

Primaries almost entirely bordered with brown, with an oblique band of the same color from the inner margin to the tip; and the brown border on the front margin has two short irregular projections extending backwards on the surface of the wing.

Secondaries white without spots.

Thighs buff-yellow.

Wings expand 18-20 lines."

Larva undescribed.

Hab.—Massachusetts.

H. Lecontei !—Boisd. (*C. militaris*? Var. *Lecontei*.)

Palpi deep orange-yellow, tipped with black. Antennæ black. Head orange-yellow. Thorax whitish with a wide central brown stripe.

Primaries vary in color from very light to dark brown, with from four to six large irregular white spots and two or three smaller ones.

Secondaries white, sometimes with one or two brown or blackish dots towards the anal angle.

Under surface of primaries with the costal edge, and brown markings towards the apex orange-yellow.

Abdomen yellowish-white tipped with yellow. Legs ochre-yellow, striped and spotted with black.

Length of body 6-7 lines. Wings expand 16-17 lines.

Larva undescribed.

Hab.—London, common; St. Catherines (Mr. Beadle); West Flamboro' (Mr. Bethune); Port Stanley (Mr. Edwards.)

This moth, which is usually regarded as a variety of the preceding species, has been described separately under Boisduval's name "*Lecontei*" for the following reason: That while this so-called variety is common in many localities throughout the Province, I have never yet met with a single specimen at all approaching the description and figure given of "*militaris*" in "Harris' Insects;" a fact exceedingly remarkable if the former is merely a variety of the latter.

**H. confinis*.—Walker. C. B. M., 661.

"Proboscis tawny. Palpi with black tips. Antennæ black. Head, prothorax, fore coxae, and abdomen at the base luteous. Thorax and abdomen white with a brown stripe.

Primaries brown, with a discal slightly angular white stripe, and an elongate, triangular, oblique, subapical white band.

Secondaries white.

Length of body 6 lines. Wings expand 18 lines."

Larva undescribed.

Hab.—United States.

H. clymene !—Esper. Colona Hubner.

Palpi ochre-yellow tipped with brown. Antennæ brownish-black. Head and prothorax orange-yellow. Thorax yellowish-white with two small spots in front, and a wide central band black.

Primaries brownish-black, with four or five large white or yellowish-white spots, and one or two small ones.

Secondaries light yellow with a brown spot near the anal angle.

Under surface of primaries with markings as above but much paler and overcast with yellow. Secondaries deeper in color than above.

Abdomen pale yellow with the tip of a deeper color, and a dorsal line of black. Legs yellow, the fore and middle pairs edged with black.

Length of body 6 lines. Wings expand 17-18.

Larva undescribed.

Hab.—Near West Flamboro'. Captured at midday in August. (Mr. Bethune.)

H. interrupto-marginata!—Beauv. *Carolina*, Harris. *C. comma*, Walker, C. B. M., 652. *Borolix interrupto-marginata*. De Beauvois, *Ins. Afriq. et Amer.*, p. 265, pl. 24.

Palpi deep ochre-yellow with black tips. Antennæ brown. Head pale orange-yellow. Thorax yellowish or pale buff, with a wide central black stripe, and a black spot on each side at base of primaries.

Primaries pale buff, with a black stripe along the costa not reaching the apex; a broad stripe of the same color along the inner margin, widening near the tip and sending from near the inner angle towards the hind end of the disk a hooked demi-band; hind margin with an incomplete black band, widest in the middle.

Secondaries bright orange-yellow with a black spot not far from the anal angle.

Under surface deep yellow throughout, with the markings on primaries excepting the demi-band scarcely perceptible.

Abdomen orange-yellow, with a dorsal band black. Legs deep yellow; the fore and middle pairs edged anteriorly with black.

Length of body 6-8 lines. Wings expand 16-20 lines.

Larva undescribed.

Hab.—London, rare; St. Catherines (Mr. Beadle); Port Stanley (Mr. Edwards); Wisconsin, and Virginia.

